

FIG. 1

200

| ACTUAL LOAD TABLE FOR R_i | | | |
|-----------------------------|-------------|---------|-------------|
| DOWNLINK | | UPLINK | |
| BAND | LOAD | BAND | LOAD |
| B_1^D | $m_{1,i}^D$ | B_1^U | $m_{1,i}^U$ |
| B_2^D | $m_{2,i}^D$ | B_2^U | $m_{2,i}^U$ |
| ... | ... | ... | ... |
| B_L^D | $m_{L,i}^D$ | B_L^U | $m_{L,i}^U$ |

FIG. 2

300

| ACTUAL USER LIST FOR R_i | | | | | | | | |
|----------------------------|-----------------|-----------------|-----|-----------------|-----------------|-----------------|-----|-----------------|
| MOBILE ID | DOWNLINK | | | | UPLINK | | | |
| | B_1^D | B_2^D | ... | B_L^D | B_1^U | B_2^U | ... | B_L^U |
| M_1 | $C_{1,1}^{i,D}$ | $C_{1,2}^{i,D}$ | ... | $C_{1,L}^{i,D}$ | $C_{1,1}^{i,U}$ | $C_{1,2}^{i,U}$ | ... | $C_{1,L}^{i,U}$ |
| M_2 | $C_{2,1}^{i,D}$ | $C_{2,2}^{i,D}$ | ... | $C_{2,L}^{i,D}$ | $C_{2,1}^{i,U}$ | $C_{2,2}^{i,U}$ | ... | $C_{2,L}^{i,U}$ |
| ... | | | ... | | | | ... | |
| M_K | $C_{K,1}^{i,D}$ | $C_{K,2}^{i,D}$ | ... | $C_{K,L}^{i,D}$ | $C_{K,1}^{i,U}$ | $C_{K,2}^{i,U}$ | ... | $C_{K,L}^{i,U}$ |

FIG. 3

| NOMINAL RESOURCE AVAILABILITY TABLE 400 FOR R_i | | | |
|---|-------------------|---------|-------------------|
| DOWNLINK | | UPLINK | |
| BAND | AVAIL. | BAND | AVAIL. |
| B_1^D | $a_{1,i}^{D,nom}$ | B_1^U | $a_{1,i}^{U,nom}$ |
| B_2^D | $a_{2,i}^{D,nom}$ | B_2^U | $a_{2,i}^{U,nom}$ |
| ... | ... | ... | ... |
| B_L^D | $a_{L,i}^{D,nom}$ | B_L^U | $a_{L,i}^{U,nom}$ |

FIG. 4

| MEASURED RESOURCE AVAILABILITY TABLE 500 FOR R_i | | | |
|--|-------------------|---------|-------------------|
| DOWNLINK | | UPLINK | |
| BAND | AVAIL. | BAND | AVAIL. |
| B_1^D | $a_{1,i}^{D,mrd}$ | B_1^U | $a_{1,i}^{U,mrd}$ |
| B_2^D | $a_{2,i}^{D,mrd}$ | B_2^U | $a_{2,i}^{U,mrd}$ |
| ... | ... | ... | ... |
| B_L^D | $a_{L,i}^{D,mrd}$ | B_L^U | $a_{L,i}^{U,mrd}$ |

FIG. 5

| REALISTIC RESOURCE AVAILABILITY TABLE 600 FOR R_i | | | |
|---|--------------------|---------|--------------------|
| DOWNLINK | | UPLINK | |
| BAND | AVAIL. | BAND | AVAIL. |
| B_1^D | $a_{1,i}^{D,real}$ | B_1^U | $a_{1,i}^{U,real}$ |
| B_2^D | $a_{2,i}^{D,real}$ | B_2^U | $a_{2,i}^{U,real}$ |
| ... | ... | ... | ... |
| B_L^D | $a_{L,i}^{D,real}$ | B_L^U | $a_{L,i}^{U,real}$ |

FIG. 6

| RAP Neighborhood Received Power List 700 for R_i | |
|--|----------------------|
| RAP ID | Received Power Level |
| R_{i1} | $P_{i \leftarrow 1}$ |
| R_{i2} | $P_{i \leftarrow 2}$ |
| ... | ... |
| R_{ij} | $P_{i \leftarrow j}$ |

FIG. 7

| DEMAND LIST 800 FOR R_i | | |
|---------------------------|----------------------------|-------------------|
| MOBILE ID | # OF REQUESTED RESOURCES | LOCATION IN QUEUE |
| M_1 | λ_1^D, λ_1^U | X_1 |
| M_2 | λ_2^D, λ_2^U | X_2 |
| ... | ... | ... |
| M_K | λ_K^D, λ_K^U | X_K |

FIG. 8

| PROBABILITY OF ASSIGNMENT TABLE 900 FOR R_i | | | |
|---|-------------|---------|-------------|
| DOWNLINK | | UPLINK | |
| BAND | AVAIL. | BAND | AVAIL. |
| B_1^D | $p_{1,i}^D$ | B_1^U | $p_{1,i}^U$ |
| B_2^D | $p_{2,i}^D$ | B_2^U | $p_{2,i}^U$ |
| ... | ... | ... | ... |
| B_L^D | $p_{L,i}^D$ | B_L^U | $p_{L,i}^U$ |

FIG. 9

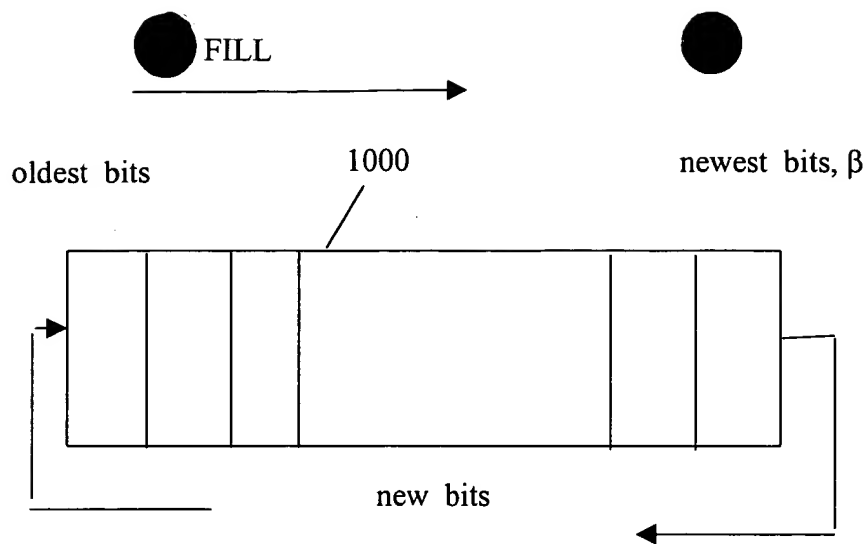


FIG. 10

| MOBILE DOWNLINK INTERFERENCE MEASUREMENT TABLE 1100 | |
|---|-----------------------------|
| BAND | MEASURED INTERFERENCE LEVEL |
| B_1^D | $I_{1,k}^D$ |
| B_2^D | $I_{2,k}^D$ |
| ... | ... |
| B_L^D | $I_{L,k}^D$ |

FIG. 11

| PREDICTED NEW LOAD TABLE 1200 FOR R_i | | | |
|---|----------------|---------|----------------|
| DOWNLINK | | UPLINK | |
| BAND | PREDICTED LOAD | BAND | PREDICTED LOAD |
| B_1^D | $\mu_{1,i}^D$ | B_1^U | $\mu_{1,i}^U$ |
| B_2^D | $\mu_{2,i}^D$ | B_2^U | $\mu_{2,i}^U$ |
| ... | ... | ... | ... |
| B_L^D | $\mu_{L,i}^D$ | B_L^U | $\mu_{L,i}^U$ |

FIG. 12

| RAP Neighborhood Predicted Load and Availability List 1300 for R_i | | |
|--|--|--|
| RAP ID | Predicted Load | Real Availability |
| R_{i1} | $\mu_{l,i1}^D, \mu_{l,i1}^U \forall l$ | $a_{l,i1}^{D,real}, a_{l,i1}^{U,real} \forall l$ |
| R_{i2} | $\mu_{l,i2}^D, \mu_{l,i2}^U \forall l$ | $a_{l,i2}^{D,real}, a_{l,i2}^{U,real} \forall l$ |
| ... | ... | ... |
| R_{ij} | $\mu_{l,ij}^D, \mu_{l,ij}^U \forall l$ | $a_{l,ij}^{D,real}, a_{l,ij}^{U,real} \forall l$ |

FIG. 13

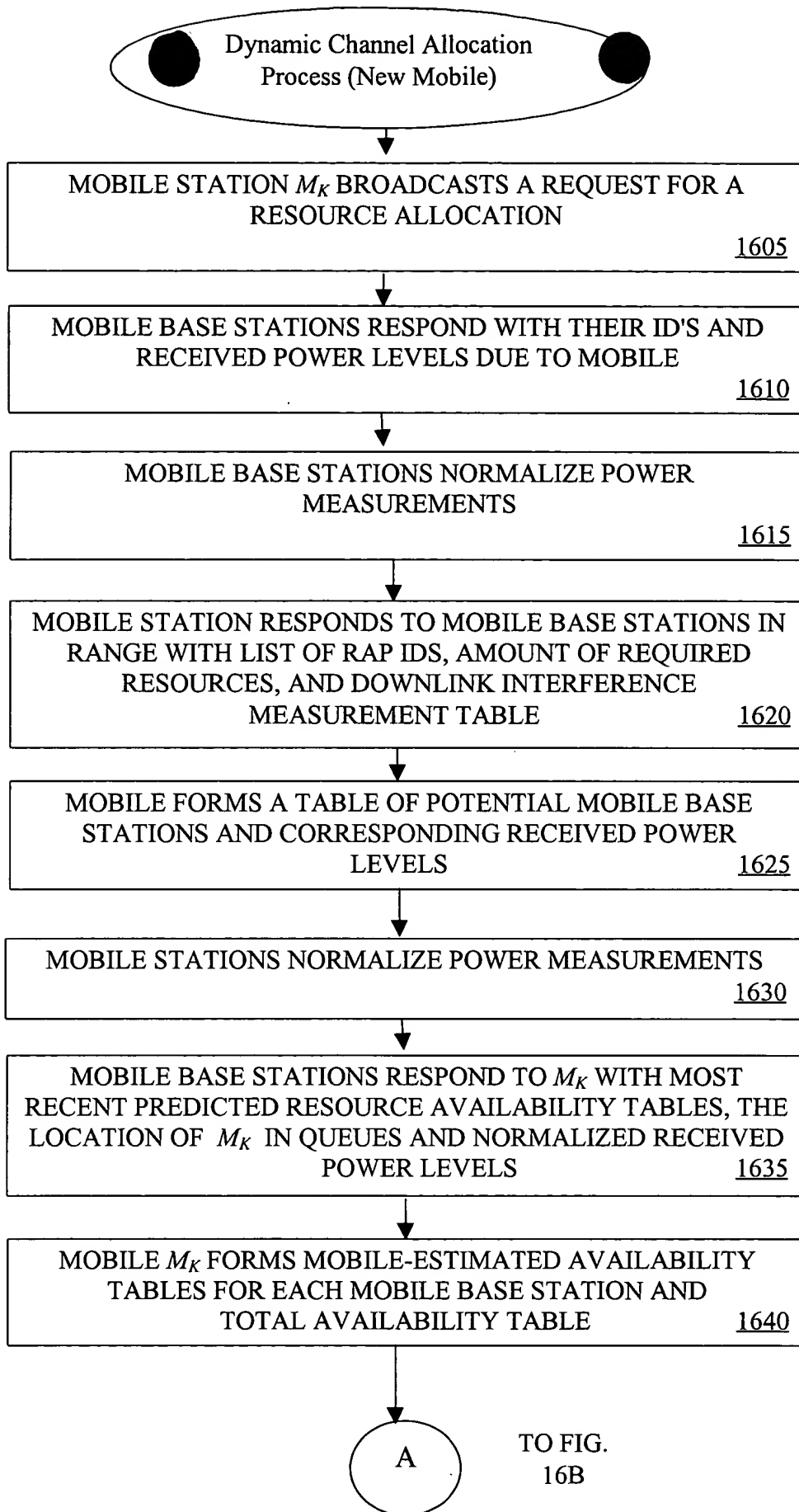
| CONSIDERATE RESOURCE AVAILABILITY TABLE 1400 FOR R_i | | | |
|--|-------------------|---------|-------------------|
| DOWNLINK | | UPLINK | |
| BAND | AVAIL. | BAND | AVAIL. |
| B_1^D | $a_{1,i}^{D,con}$ | B_1^U | $a_{1,i}^{U,con}$ |
| B_2^D | $a_{2,i}^{D,con}$ | B_2^U | $a_{2,i}^{U,con}$ |
| ... | ... | ... | ... |
| B_L^D | $a_{L,i}^{D,con}$ | B_L^U | $a_{L,i}^{U,con}$ |

FIG. 14

| PREDICTED RESOURCE AVAILABILITY TABLE 1500 FOR R_i | | | |
|--|--------------------|---------|--------------------|
| DOWNLINK | | UPLINK | |
| BAND | AVAIL. | BAND | AVAIL. |
| B_1^D | $a_{1,i}^{D,pred}$ | B_1^U | $a_{1,i}^{U,pred}$ |
| B_2^D | $a_{2,i}^{D,pred}$ | B_2^U | $a_{2,i}^{U,pred}$ |
| ... | ... | ... | ... |
| B_L^D | $a_{L,i}^{D,pred}$ | B_L^U | $a_{L,i}^{U,pred}$ |

FIG. 15

1600



644280" 52954E50

FIG. 16A

A

FROM
FIG. 16A

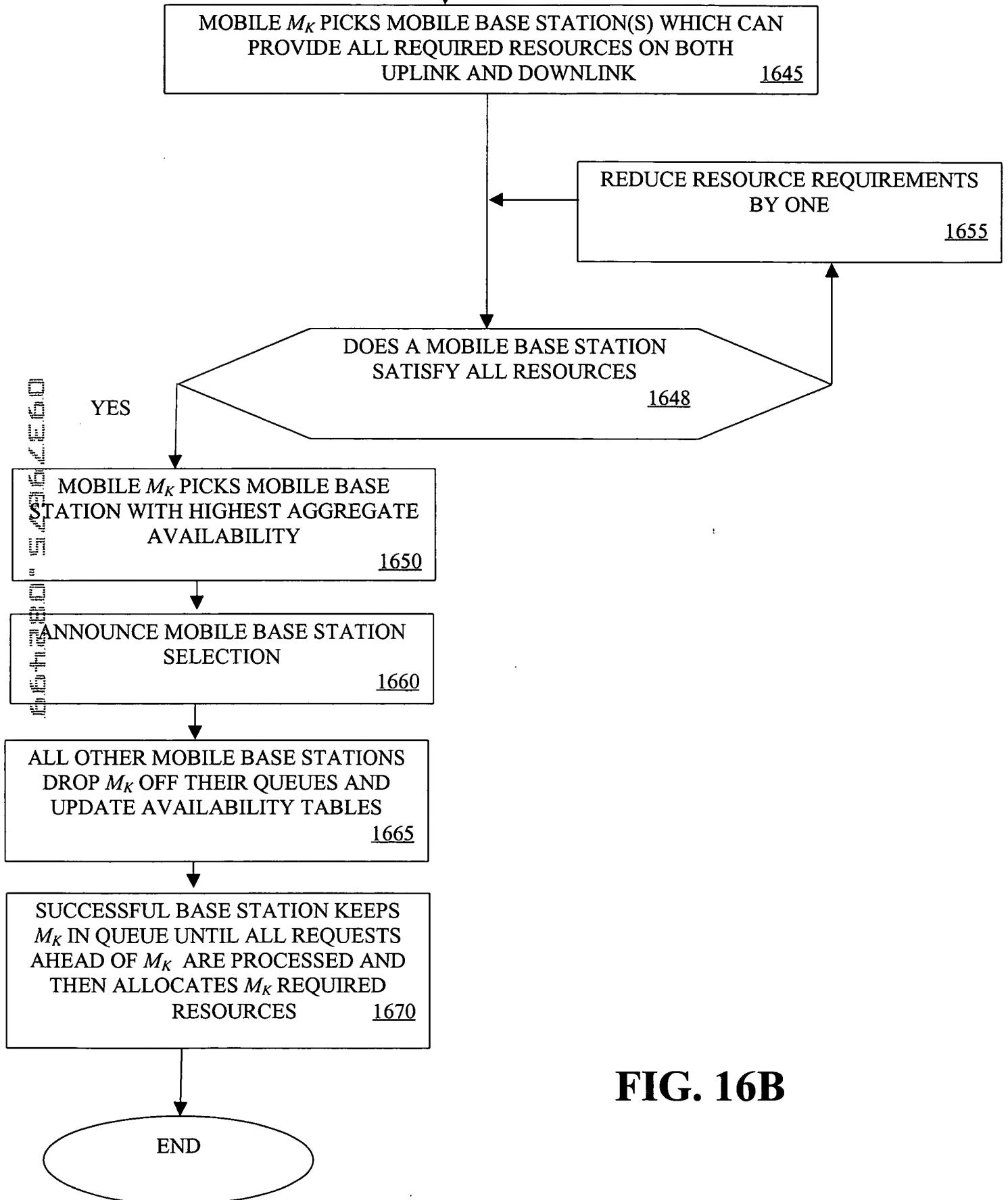


FIG. 16B

| MOBILE-ESTIMATED RESOURCE AVAILABILITY TABLE 1700 FOR R_i BY M_k | | | |
|--|----------------------|---------|----------------------|
| DOWNLINK | | UPLINK | |
| BAND | AVAIL. | BAND | AVAIL. |
| B_1^D | $a_{1,i}^{D,MobEst}$ | B_1^U | $a_{1,i}^{U,MobEst}$ |
| B_2^D | $a_{2,i}^{D,MobEst}$ | B_2^U | $a_{2,i}^{U,MobEst}$ |
| ... | ... | ... | ... |
| B_L^D | $a_{L,i}^{D,MobEst}$ | B_L^U | $a_{L,i}^{U,MobEst}$ |

FIG. 17

| MOBILE TOTAL RESOURCE AVAILABILITY TABLE 1800 FOR M_k | | | |
|---|-----------------|--------|-----------------|
| DOWNLINK | | UPLINK | |
| RAP | AVAIL. | RAP | AVAIL. |
| R_1 | $a_i^{D,total}$ | R_1 | $a_i^{U,total}$ |
| R_2 | $a_i^{D,total}$ | R_2 | $a_i^{U,total}$ |
| ... | ... | ... | ... |
| R_N | $a_i^{D,total}$ | R_N | $a_i^{U,total}$ |

FIG. 18

1900

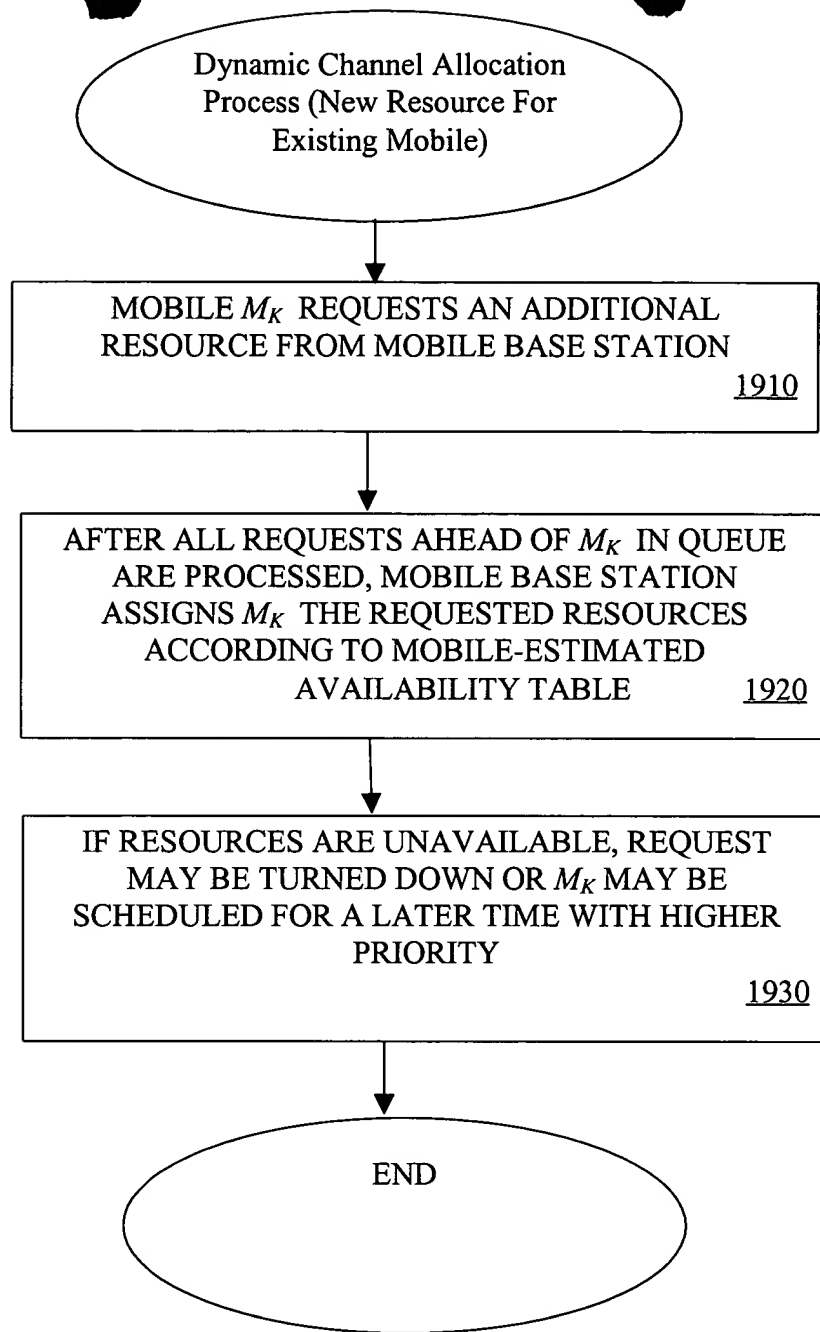


FIG. 19